

**BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA**

APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 76M-30159247 BY MISSOULA COUNTY FAIRGROUNDS	}	PRELIMINARY DETERMINATION TO GRANT PERMIT
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On March 14, 2023, MISSOULA COUNTY FAIRGROUNDS (Rocky Mountain Gardens and Exploration Center) (Applicant) submitted Application for Beneficial Water Use Permit No. 76M 30159247 to the Missoula Water Resources Office of the Department of Natural Resources and Conservation (Department or DNRC) for 84 gallons per minute (GPM) and 28.46 acre-feet (AF) of volume for geothermal cooling. A pre-application meeting was held with the Applicant's representatives on December 28, 2022. The Department published receipt of the Application on its website March 20, 2023. The Application was determined to be correct and complete as of June 8, 2023. An Environmental Assessment for this Application was completed on September 12, 2023.

INFORMATION

The Department considered the following information submitted by the Applicant, which is contained in the administrative record.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600-GW
- Attachments: Criteria Supplement to Form 600-GW
 - Supplemental Information to the Application
 - Form 633 and Variance Request from ARM 36.12.121(3)(e)(h)
 - Department- issued Variance Approval, dated December 21, 2022
 - Well Logs (GWIC ID# 323584 & 323585)
 - Pump specification and pump curve data
 - Possessory Interest Documentation- e-signature document

- Maps:
 - Schematic showing location of extraction and injection well and proposed pipelines.
 - 2019 NAIP aerial photo labeled site map, showing the place of use, point of diversion and injection well.
- Aquifer Testing Addendum (Form 600-ATA)

Information within the Department’s Possession/Knowledge

- DNRC surface water and groundwater right records
- Department Technical Report dated June 8, 2023
- Department Memorandum entitled “Variance – Missoula Valley Geothermal/Heat Exchange Wells” dated March 10, 2010
- Department Hydrogeologist report entitled “Groundwater Permit Report” dated May 19, 2023, prepared by Evan Norman, Groundwater Hydrologist

The Department has fully reviewed and considered the evidence and argument submitted in this Application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

PROPOSED APPROPRIATION

FINDINGS OF FACT

1. The Applicant proposes to divert water at a maximum rate of 84 GPM up to a diverted volume of 28.46 AF from May 1 to October 31 annually for geothermal cooling in the Rocky Mountain Gardens and Exploration Center (RMGEC) at the Missoula County Fairgrounds. The proposed point of diversion (extraction well) GWIC# 323584 is 96-foot-deep groundwater well fitted with a 5 hp Franklin Electric submersible pump located in the NENWNW of Section 33, T13N, R19W, Missoula County. The injection well GWIC #323585 is 96 feet-deep, located 350 feet southwest from the extraction well, and located in the NENWNW of Section 33, T13N, R19W, Missoula County. The extraction and injection wells and the place of use are located at

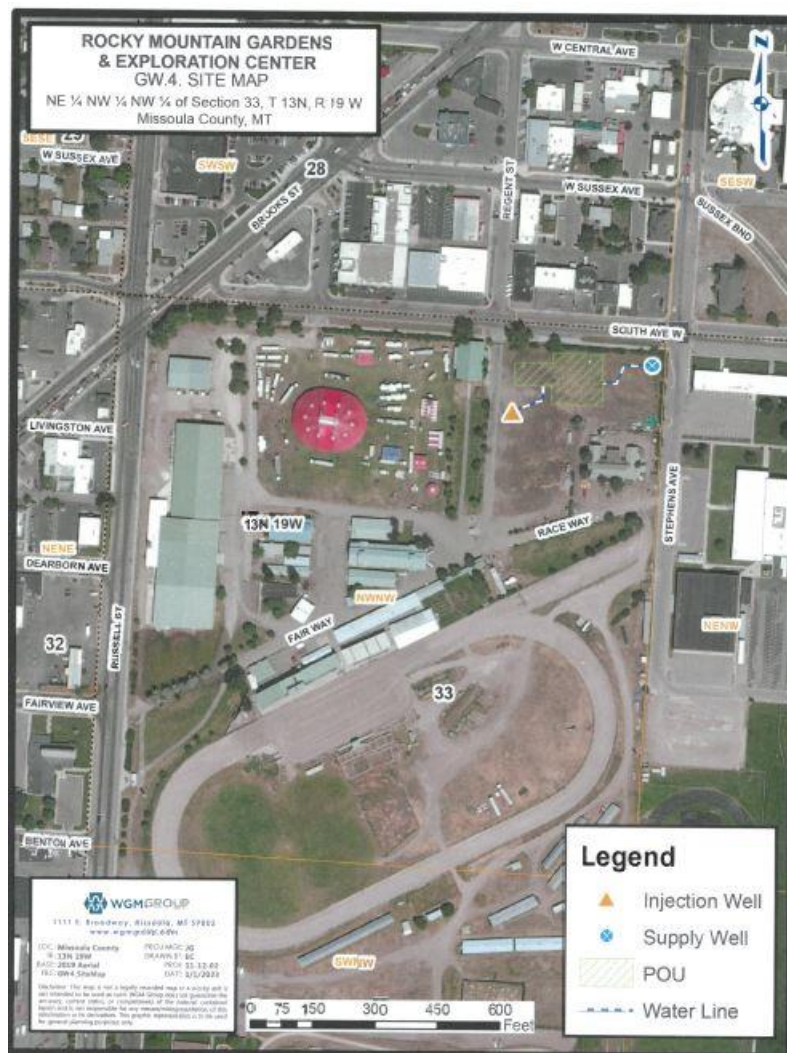
Missoula County Fairgrounds Complex in Missoula. The Rocky Mountain Gardens and Exploration Center is a new building on the complex that includes installing a geothermal cooling system in the building.

2. The wells are approximately 11,000 ft northeast of the Bitterroot River and 8,000 feet southwest of the Clark Fork River.
3. There is no consumptive use associated with the proposed appropriation. This application is for a non-consumptive water right for geothermal cooling. The injection of water back into the aquifer after cooling use results in depletions and accretions that offset each other, resulting in no net effect to the groundwater aquifer or surface water flows in the Clark Fork and Bitterroot rivers.
4. The Applicant provided a plan and agreed to measure water using an in-line flow meter which will collect and store flow rate and volume data for water measurement reporting requirements. The Applicant will be required to measure the monthly flow rates and volumes of water diverted for geothermal cooling as a condition of permit issuance and will report these figures to DNRC on a yearly basis. Water measurements collected and submitted by the Applicant will allow the Applicant to determine when they have fully perfected the proposed geothermal cooling use and ensure that the Applicant does not exceed the permitted flow rate and volume of water. The following condition applies:

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT APPROVED IN-LINE FLOW METER AT A POINT IN THE DELIVERY LINE APPROVED BY THE DEPARTMENT. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, THE APPROPRIATOR SHALL KEEP A WRITTEN MONTHLY RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED, INCLUDING THE PERIOD OF TIME. RECORDS SHALL BE SUBMITTED BY JANUARY 31 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR UNTIL THE BENEFICIAL WATER USE PERMIT IS PERFECTED AND THE DEPARTMENT RECEIVES A PROJECT COMPLETION NOTICE. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF A PERMIT OR CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING

DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

Map 1



§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA

GENERAL CONCLUSIONS OF LAW

5. The Montana Constitution expressly recognizes in relevant part that:
- (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
 - (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
 - (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, §3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

- (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
- (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

6. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. See § 85-2-102(1), MCA. An applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

... the department shall issue a permit if the applicant proves by a preponderance of evidence that the following criteria are met:

(a) (i) there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; and

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

(b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) the applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, “the applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies.” § 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Id. A preponderance of evidence is “more probably than not.” Hohenlohe v. DNRC, 2010 MT 203, ¶¶33, 35.

7. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

(1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, “uncontrolled development of a valuable natural resource” which “contradicts the spirit and purpose underlying the Water Use Act.”); see also, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers* (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

8. The Montana Supreme Court further recognized in Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starnier (1996), 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080, *superseded by legislation on another issue*:

Nothing in that section [85-2-313], however, relieves an applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court,

Memorandum and Order (2011). The Supreme Court likewise explained that:

.... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; see also Mont. Const. art. IX §3(1).

9. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. § 85-2-311(6), MCA.

10. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

Physical Availability
FINDINGS OF FACT

11. To address the aquifer testing requirements of Administrative Rules of Montana (ARM) 36.12.121, the Applicant requested a variance to ARM 36.12.121(3)(e)(h) on October 10, 2022, and was granted the variance December 21, 2022. The variance granted allowed the Applicant to vary from the 72-hour aquifer testing requirement and from drawdown measurements from an observation well. The Department granted the variance following guidance outlined in the DNRC March 10, 2010, memo entitled “Variance – Missoula Valley Geothermal/Heat Exchange Wells”. This memo allows the Applicant to perform a limited duration test to address short-term physical availability and adequacy of diversion while forgoing the more rigorous aquifer testing typically required if the aquifer properties provided in the memo are used in evaluation of the criteria (Transmissivity (T) = 50,000 ft²/day, Specific Yield (S_y)= 0.10). The Applicant conducted an 8-hour drawdown yield test and submitted results of the aquifer tests on DNRC’s Aquifer Test Data Form (Form 633).

12. Short term physical availability was evaluated by the Department using Applicant supplied data from 8-hour test completed for the extraction well at an average constant pumping rate of 35 GPM. The Department- modeled maximum drawdown was 0.15 feet after the first year, leaving 39.3 feet of water above the bottom of the well. The 8-hour drawdown test adequately demonstrates physical availability of available water column for the well.

13. Physical groundwater availability was calculated by Department Hydrogeologist Evan Norman who presented the findings in a May 19, 2023, Aquifer Test Report. Using aquifer properties established in the DNRC March 10, 2010, memo, a constant pumping rate of 35 GPM (equivalent to the proposed geothermal volume diverted over the requested period of use) for the extraction well and injection well (negative rates for the injection well) the Department modeled the zone of influence to the 0.01-foot drawdown contour. The calculation for groundwater flux through the zone of influence resulted in a volume of 586.5 AF/year. The Applicant requested 28.46 AF/year of non-consumed volume.

14. The Department finds that the amount of groundwater the Applicant seeks to appropriate is physically available.

CONCLUSIONS OF LAW

15. Pursuant to § 85-2-311(1)(a)(i), MCA, an applicant must prove by a preponderance of the evidence that “there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate.”

16. It is the applicant’s burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-41I by Anson* (DNRC Final Order 1987)(applicant produced no flow measurements or any other information to show the availability of water; permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005).

17. An applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

18. The Applicant has proven that water is physically available at the proposed point of diversion in the amount Applicant seeks to appropriate. § 85-2-311(1)(a)(i), MCA. (FOF Nos. 11 - 14)

Legal Availability:

FINDINGS OF FACT

19. Within the zone of influence, (as defined in Finding of Fact 13), there are zero groundwater rights on record with the Department. Subtracting the legal demands of 0.00 AF from the calculated groundwater flux 586.5 AF leaves 586.5 acre-feet of groundwater.

20. The Department’s analysis shows that groundwater is legally available within the zone of influence from pumping the proposed extraction well. The proposed appropriation of

groundwater for geothermal cooling can be considered legally available because it is non-consumptive; water diverted from the source aquifer is returned to the source aquifer without delay, and therefore the consumed volume associated with this proposed appropriation is 0 AF per year. Thus, the Department finds the proposed appropriation to the source to be legally available as no additional consumptive demand on the source is being created.

21. As the depletions from pumping and accretions from injection are equal and there is no net consumptive use, there will be no effect to surface water flows in the Clark Fork River or the Bitterroot River, approximately 11,000 feet and 8,000 feet from the location of the well respectively. Due to the lack of surface water depletions in the Clark Fork River and Bitterroot River, a legal availability analysis for surface water is not required.

CONCLUSIONS OF LAW

22. Pursuant to § 85-2-311(1)(a), MCA, an applicant must prove by a preponderance of the evidence that:

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

- (A) identification of physical water availability;
- (B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and
- (C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; Montana Power Co., 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

23. It is the applicant's burden to present evidence to prove water can be reasonably considered legally available. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA)

and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting.); see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005))(it is the applicant's burden to produce the required evidence.); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC* (DNRC Final Order 2007)(permit denied for failure to prove legal availability); see also ARM 36.12.1705.

24. Pursuant to Montana Trout Unlimited v. DNRC, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. E.g., Wesmont Developers v. DNRC, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(mitigation of depletion required), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); see also Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing* Smith v. Duff, 39 Mont. 382, 102 P. 984 (1909), and Perkins v. Kramer, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing* Loyning v. Rankin (1946), 118 Mont. 235, 165 P.2d 1006; Granite Ditch Co. v. Anderson (1983), 204 Mont. 10, 662 P.2d 1312; Beaverhead Canal Co. v. Dillon Electric Light & Power Co. (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No.*

63997-42M by Joseph F. Crisafulli (DNRC Final Order 1990)(since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all groundwater rights in the drainage.) Because the applicant bears the burden of proof as to legal availability, the applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water. § 85-2-311(a)(ii), MCA. Absent such proof, the applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 By Utility Solutions LLC* (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ; Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

25. Where a proposed ground water appropriation depletes surface water, applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(permits granted), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007)(permit granted), *affirmed*, Montana River Action Network et al. v. DNRC et al., Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal

availability outside of irrigation season (where mitigation applied)); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC* (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit denied in part for failure to analyze legal availability for surface water depletion); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and Beaverhead River); Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12 (“DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator”; applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-30045578 by GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for “historic beneficial use” in analyzing legal availability of surface water under § 85-2-360(5), MCA. Royston, supra.

26. Applicant has proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. § 85-2-311(1)(a)(ii), MCA. (FOF Nos. 19-21.)

Adverse Effect

FINDINGS OF FACT

27. The Applicant will operate the groundwater cooling exchange system during times of water shortage the same as in times of normal supply as the proposed appropriation results in no depletion to either surface or groundwater sources. However, if a legitimate call for water is made by a senior appropriation the Applicant can turn off the pump in the extraction well ceasing diversion for geothermal cooling. The use of groundwater for geothermal cooling will not worsen aquifer conditions in times of shortage because groundwater is returned to the source aquifer at the same rate it is diverted with the injection of water offsetting the effects of pumping from the extraction well.

28. Using the Theis (1935) solution with the aquifer properties established in the DNRC March 10, 2010 memo, the Department modeling shows that after five years of pumping at a constant rate of 35 GPM from the extraction well and -35 GPM for the injection well for the 184-day period of use, the 0.01-foot drawdown contour would occur within 350 feet from the production well. There are zero water rights that are predicted to experience drawdown greater than 1 foot.

29. Surface water rights will not be adversely affected as the extraction and injection wells are in close proximity (350 feet), groundwater is returned to the same aquifer from which it is extracted, the use is non-consumptive, and there is sufficient distance to the surface water sources to allow for extraction and injection effects to result in net-zero depletions (11,000 feet and 8,000 feet).

30. The plumbing system for the geothermal cooling unit will utilize a flow and totalizer meter, fitted on the groundwater supply line entering the building from the extraction well. The Applicant will report monthly water usage to DNRC annually, ensuring that the permitted flow rate and volume will not be exceeded and to allow for the Applicant to use water measurement data to perfect the provisional permit.

31. The Department finds there will be no adverse effect because the Application is for non-consumptive geothermal use, the rate of extraction and injection is equal. As such, net

depletions and accretions would offset one another resulting in no net effect to groundwater or surface waters.

CONCLUSIONS OF LAW

32. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected.

Analysis of adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. See Montana Power Co. (1984), 211 Mont. 91, 685 P.2d 336 (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); Bostwick Properties, Inc. ¶ 21.

33. An applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. Id. ARM 36.12.120(5).

34. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 4.

35. In analyzing adverse effect to other appropriators, an applicant may use the water rights claims of potentially affected appropriators as evidence of their “historic beneficial use.” See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054.

36. It is the applicant’s burden to produce the required evidence. E.g., Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (legislature has placed the burden of proof squarely on the applicant); *In the Matter of*

Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC., (DNRC Final Order 2005). (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Bostwick Properties, Inc. ¶ 21.

37. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pg. 8.

38. The Applicant has proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. § 85-2-311(1)(b), MCA. (FOF Nos. 27-31)

Adequate Diversion

FINDINGS OF FACT

39. Groundwater will be pumped from the production well which has a 8-inch casing and is 96 feet deep. The well is equipped with a 5hp Franklin Electric submersible pump capable of pumping 84 GPM. The Applicant submitted pump specifications and a pump curve. The injection well is 96 feet deep with a 8-inch casing.

40. Groundwater will be pumped from the extraction well (GWIC 323584), which is screened from 78 feet to 96 feet below ground surface into an underground pipeline to the mechanical room. Groundwater will circulate into a plate and frame heat exchanger in the mechanical room. The geothermal cooling system will provide temperature control for the Rocky Mountain Gardens and Exploration Center. Groundwater will not flow through an air handling coil or mix with other fluids. After the water is routed through the RMGEC building, it will exit the system through an underground pipeline to a drop pipe installed in the injection well (GWIC 323585). A schematic of the approximate location of water lines entering and exiting the mechanical room was submitted by the Applicant. All diverted water will be returned to the aquifer via the injection well, the project will not discharge water.

41. A flow and totalizer meter will be installed in the mechanical room – see finding of fact 30.

CONCLUSIONS OF LAW

42. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.
43. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.
44. Water wells must be constructed according to the laws, rules, and standards of the Board of Water Well Contractors to prevent contamination of the aquifer. *In the Matter of Application for Beneficial Water Use Permit No. 41I-105511 by Flying J Inc.* (DNRC Final Order 1999).
45. Information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies, based upon project complexity design by licensed engineer adequate. *In the Matter of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC* (DNRC Final Order 2002).
46. Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. § 85-2-311(1)(c), MCA (FOF Nos. 39-41).

Beneficial Use

FINDINGS OF FACT

47. The Applicant proposes to use groundwater from May 1 through October 31 annually for the purpose of geothermal cooling in the Rocky Mountain Gardens and Exploration Center.
48. The Applicant proposes to divert groundwater from an extraction well at a maximum flow rate of 84 GPM. The total annual diverted volume will not exceed 28.46 AF per year. The geothermal cooling system was designed by mechanical engineers for a maximum flow rate of 84 GPM. The proposed system is estimated to operate at 84 GPM for 10 hours per day for 184

days a year. WGM Group, Inc. calculated the volume of 28.46 AF a year. (84 gal/min x 60 min/hr x 10hrs/day x 184 days) ÷ 1 AF/325,851 gal = 28.46 AF).

49. The Department finds the requested flow rate of 84 GPM and volume of 28.46 AF for geothermal cooling to be a beneficial use of water.

CONCLUSIONS OF LAW

50. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

51. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. E.g., McDonald, supra; Toohey v. Campbell (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. E.g., Bitterroot River Protective Association v. Siebel, Order on Petition for Judicial Review, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds, Dee Deaterly v. DNRC et al*, Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); Worden v. Alexander (1939), 108 Mont. 208, 90 P.2d 160; Allen v. Petrick (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

52. Amount of water to be diverted must be shown precisely. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 3 (citing BRPA v. Siebel, 2005 MT 60, and rejecting applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

53. Applicant proposes to use water for geothermal cooling which is a recognized beneficial use. § 85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence geothermal

cooling is a beneficial use and that 28.46 AF of diverted volume and 84 GPM of water requested is the amount needed to sustain the beneficial use. § 85-2-311(1)(d), MCA. (FOF Nos. 47-49)

Possessory Interest

FINDINGS OF FACT

54. The Applicant signed the application form affirming the Applicant has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

CONCLUSIONS OF LAW

55. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

56. Pursuant to ARM 36.12.1802:

(1) An applicant or a representative shall sign the application affidavit to affirm the following:

(a) the statements on the application and all information submitted with the application are true and correct and

(b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.

(2) If a representative of the applicant signs the application form affidavit, the representative shall state the relationship of the representative to the applicant on the form, such as president of the corporation, and provide documentation that establishes the authority of the representative to sign the application, such as a copy of a power of attorney.

(3) The department may require a copy of the written consent of the person having the possessory interest.

57. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. § 85-2-311(1)(e), MCA. (FOF Nos. 54)

PRELIMINARY DETERMINATION

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 76M 30159247 should be GRANTED.

The Department determines the Applicant may divert groundwater for geothermal cooling by means of a 96-foot-deep extraction well (GWIC 323584). The well will divert up to 84 GPM and up to a maximum diverted volume of 28.46 AF which will be returned to the aquifer via a 96-foot-deep injection well (GWIC 323585). The extraction well is located in the NENWNW of Section 33, T13N, R19W, Missoula County and the injection well is located 350 feet southwest from the extraction well in the NENWNW of Section 33, T13N, R19W, Missoula County. The period of diversion and use will be from May 1 through October 31 annually. The place of use will be in the Rocky Mountain Gardens and Exploration Center located in the Missoula County Fairgrounds Complex.

The application will be subject to the following conditions, limitations or restrictions.

1) **WATER MEASUREMENT RECORDS REQUIRED:**

The Appropriator shall install a department approved in-line flow meter at a point in the delivery line approved by the Department. Water must not be diverted until the required measuring device is in place and operating. On a form provided by the Department, the Appropriator shall keep a written monthly record of the flow rate and volume of all water diverted, including the period of time. Records shall be submitted by January 31 of each year and upon request at other times during the year until the beneficial water use permit is perfected and the Department receives a project completion notice. Failure to submit reports may be cause for revocation of a permit or change. The records must be sent to the Water Resources Regional Office. The Appropriator shall maintain the measuring device, so it always operates properly and measures flow rate and volume accurately.

NOTICE

This Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to §§ 85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§ 85-2-307, and -308, MCA. If this Application receives no valid objection or all valid objections are unconditionally withdrawn, the Department will grant this Application as herein approved. If this Application receives a valid objection, the application and objection will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and § 85-2-309, MCA. If valid objections to an application are received and withdrawn with stipulated conditions and the department preliminarily determined to grant the permit or change in appropriation right, the department will grant the permit or change subject to conditions necessary to satisfy applicable criteria.

DATED this 14th day of September 2023.

/Original signed by Jim Nave/

Jim Nave, Regional Manager

Missoula Regional Office

Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 14th day of September 2023, by first class United States mail.

MISSOULA COUNTY

C/O Bryce Christiaens

200 W BROADWAY

MISSOULA, MT 59802-4216

WGM GROUP

1111 E. BROADWAY

MISSOULA, MT 59802

ATTN: EMILY CLARK

KATHY SCHUBERT

DATE